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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,909	06/15/2001	Nobuhiro Suga	Q64956	6129

7590 09/24/2003  
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037

EXAMINER

MARKS, CHRISTINA M

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 09/24/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/880,909

Applicant(s)

SUGA ET AL.

Examiner

C. Marks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the 1) mark-up processing device 2) mark up of an improvised musical operation 3) operation instructions 4) mark-up occurring with each chord and timing 5) evaluation of the player 6) guidance information display device 7) players improvising a duet and 8) time required for playing improvised piece as well as all other claimed limitations not listed above must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 13, 16, 21, and those dependent therefrom are indefinite in that it is not adequately defined to one of ordinary skill in the art how a player can operate an instrument in accordance with an operation instruction of a displayed image of a performance operation instrument. One of ordinary skill in the art would not understand what is meant by performance

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operation instrument and thus would not be able to ascertain how the displayed image is to effect the operation of the player.

Further, one of ordinary skill in the art would not understand how the mark-up processing device could mark up an improvised musical operation. One of ordinary skill in the art would not be able to ascertain how the system could evaluate a performance that is claimed to be improvised while at the same time be in accordance with an operation instruction displayed. This seems to contradict the fact that the performance is claimed to be improvised. One of ordinary skill in the art would understand that an improvised performance is one that created or changed by the musician on the spot. Therefore, one would not be able to understand how such a performance could be evaluated as claimed or how it would be improvised when it is claimed that the player performs related to the operating instructions given.

It is also not clear to one of ordinary skill in the art what is meant by performance operation instruction as it is related to an improvised performance. As stated above, the fact that there is an instruction contradicts the fact that the performance is improvised. There is not positive linkage between the two elements and thus one of ordinary skill in the art would not understand how their relationship affects the other. Further, there is no proper definition in the claims for what is meant by the term marks up. One of ordinary skill in the art would not be able to distinctly and concretely understand the limitation meant by the language and thus it is indefinite.

For examination purposes, the claims will be evaluated as best understood by one of ordinary skill in the art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-22, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US Patent No. 6,541,692).

Miller discloses a game system that enables a player to play a game (Abstract) for evaluating the accuracy of an operation performed by a player in accordance with an instruction given by the system (Abstract). This instruction is a displayed image of a performance operation in the form of a table of notes (FIG 7A-7D) that appears on a game screen. Though Miller does not disclose the displayed image is an instrument, the manner in which the actual instruction is shown is a design choice that would be obvious to one of ordinary skill in the art. Further, one of ordinary skill in the art would be motivated to display an instrument to follow, as it would be an easier method for allowing a player to follow a musical piece. By displaying an instrument to follow as opposed to merely notes, the beginner would gain a better understanding of how to

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play the instrument. Miller also discloses that devices exist that use the chord structure of music to set up a system to allow the user to improvise more easily and computer versions of such a system exist (Column 1, lines 50-58). Miller also discloses a mark-up processing in the system that marks up an improvised musical operation (Column 2, lines 51-58) by dynamically composing the song as it plays to allow the player a degree of freedom in performance wherein the degree of freedom comes from not playing the same song repeatedly and using the song in its improvised form. Thus, the actual performance can be compared with the operation instruction of the markup (Column 2, lines 51-57).

Regarding claim 2, the markup of the song can occur wherein the computing device has information about both what the user is supposed to play and what the user is actually playing. The mark up or score algorithm can then mark up the piece played, defined above to be enabled to be improvised, on the basis of the progression of the performance (Column 4, lines 4-20) as to how well the accuracy of performance was played. The manner and timing in which the analysis occurs would be a design choice of one of ordinary skill in the art, thus it would be obvious to allow the mark up or scoring to occur after each chord, as one of ordinary skill in the art understands the chords are part of a performance, to provide the player with a greater detail in the analysis of their performance.

Regarding claim 3, the score evaluation of the player is increased when a match is made between the chords and notes of the player's performance and that of the preset chords to be played (Column 4, lines 4-20).

Regarding claim 4, the progression of the song to be played is stored in a data structure (Column 7, lines 50-54) and is also stored in a table (FIG 3).

Regarding claim 5, the score and markup of the player is also based on rhythmic accuracy, thus the timing is associated in the markup (Column 4, lines 4-20).

Regarding claim 6, the score evaluation is also increased with the rhythmic accuracy is achieved, thus correct timing is used in markup for the evaluation (Column 4, lines 4-20).

Regarding claim 7, the progression of the song to be played is stored in a data structure (Column 7, lines 50-54) and is also stored in a table (FIG 3). Thus, one of ordinary skill in the art would understand that the timing data would be associated with the progression of the song to properly be stored as one of ordinary skill in the art knows that along with the melodic progression, a song also has a rhythmic or timing wherein the two factors are used together to define the song.

Regarding claim 8, as disclosed above, the markup is based on both the performance chords and the performance timing.

Regarding claim 9, the display device can display guidance in the form of bar graphs (FIG 7B-7D) to further guide the musical performance as to how long each note should be held.

Regarding claim 10, as discussed above, the guidance information dictates how long the player should hold the note, thus the guidance information changes the display image such that the player can understand details of operation to be performed in accordance with the progression of the composition.

Regarding claim 11, the guidance information is for the specific piece of the selection the player is currently playing, thus the player can ascertain the position of the score.

Regarding claim 12, the guidance display can also include chords as multiple notes can be shown (FIG 7A-7D) thus it is showing a correct progression of chords of a musical composition.

Regarding claim 13, the system allows a plurality of players to engage in a game (FIG 12-15; Column 5, lines 26-27). As disclosed above, the system changes dynamically to allow for improvised performances. It also allows the multiple players to play together, analogous to that of a band, thus one of ordinary skill in the art would understand that this would represent a duet when two of the players were allowed to play together.

Regarding claim 14, based upon the scoring function disclosed by Miller and above, one of ordinary skill in the art would understand that by not properly adhering to the timing required for the piece, the player would receive a low score.

Regarding claim 15, the scoring mechanism allows immediate feedback (Column 4, line 44) thus it would axiomatically contain a display that would display the results of the mark up to the player.

Regarding claims 16-22, the limitations discussed above are disclosed, taught or suggested by Miller. It is known to those of ordinary skill in the art to store such functionality into a computer readable medium that has a program to carry out the process. One of ordinary skill in the art would understand that the functionality carried out by the hardware system of Miller could be incorporated to be controlled by software and such an incorporation would be obvious to one of ordinary skill in the art as it is notoriously well known in the art to store such procedures on a computer readable medium and one of ordinary skill in the art would know how to implement the process in order to store it on the computer readable medium.



***Response to Arguments***

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**US Patent No. 6,348,648:** System that allows a conductor to improvise music on the fly with hand written editing that can be converted to digital music notation.

**US Patent No. 6,388,181:** Method for representing the content of a musical score in an animated format that represents the image of a player playing a keyboard.

**US Patent No. 6,380,474:** Performance data is generated from a player playing a piece against a set performance that dictates accuracy of timing and chords.

**US Patent No. 6,495,747:** Performance evaluations apparatus that presents a reference performance of a musical piece for practice and then compares the input manual with the reference performance.

**US Patent No. 6,504,090:** Chord training system that provides the user with a multiple number of levels to train with,

**US Patent No. 5,955,692:** Data representing the actual performance presented by a player is analyzed against model data.

**US Patent No. 5,488,196:** Music re-performance system that allows a plurality of untrained instrumentalist to play per stored music and then analyzes the performance.

**US Patent No. 6,025,550:** Musical performance training system that includes a transmitter and receiver to aid in training a user in musical data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Marks whose telephone number is (703)-305-7497. The examiner can normally be reached on Monday - Thursday (7:30AM - 5:30 PM).

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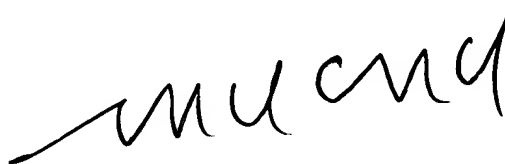
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa J Walberg can be reached on (703)-308-1327. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1148.



cmm

September 18, 2003



**MICHAEL O'NEILL**  
**PRIMARY EXAMINER**